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The Low Monetary Rates Paradox, Banking Stability and Credit: Evidence from the Euro Area

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The Low Monetary Rates Paradox, Banking Stability and Credit:

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Abstract

Low monetary policy rates may induce risk-taking by banks, increasing the probability that a banking crisis occurs. Once the crisis starts, the central banks may lower the rates to support the weak banking system to avoid a credit crunch, in turn sowing the seeds for the next credit bubble. We provide evidence on this paradox of low monetary policy rates in the Euro area. Using the unique dataset of the Euro area bank lending standards, we find that low monetary policy interest rates soften lending standards (the part of lending conditions unrelated to borrowers' risk) in the period prior to the crisis. Moreover, the impact of low short-term rates on credit and liquidity risk-taking is statistically and economically more significant than the effect of low long-term interest rates or current account deficits. Furthermore, we find that the impact of low monetary policy rates on the softening of lending standards is reduced by more stringent policy on either bank capital or LTVs. After the start of the 2008 crisis, we find that low monetary policy interest rates soften lending conditions and terms that were due to bank capital and liquidity constraints, especially for banks that borrow more liquidity from the Eurosystem.

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1. Introduction

Since the start of the severe financial crisis of 2008, the question of whether low monetary policy rates spur risk-taking by banks is at the center of an intense academic and policy debate. Nominal rates during the 2002-2005 period were the lowest in the last decades, below Taylor-rule implied rates and even real rates were negative in several countries.²

It has been argued not only by commentators but also by economic theory that keeping monetary policy rates too low can increase banks' appetite for credit and liquidity risk due to banks' moral hazard problems.³ This, in turn, increases the likelihood of a financial crisis originating by the accumulation of bank risk. But once the risk in the balance sheets of banks realizes and the crisis starts, the banking sector may then need low monetary policy rates to support credit supply for firms and households – especially for the banks with weaker balance sheets.⁴

The paradox is that while low monetary policy rates may induce risk-taking by banks, increasing the probability that a banking crisis occurs, once the crisis starts, the central banks may lower the rates to support the weak banking system and avoid a credit crunch, in turn sowing the seeds for the next credit bubble.⁵

In this paper we empirically analyze this paradox for the Euro area.

First, before the 2008 crisis, we analyze whether monetary policy rates affect lending terms and conditions for business and household loans, over and above other factors identified

² See Taylor (2007), Calomiris (2009), Rajan (2010), Diamond and Rajan (2009), Reinhart and Rogoff (2010), Allen and Rogoff (2011) among others and multiple editorials and op-eds in the Wall Street Journal, the Financial Times and The Economist.

³ See e.g. Allen and Rogoff (2011) and Rajan (2010). Jiménez et al. (2011) and Maddaloni and Peydró (2011) review theoretical arguments that link monetary policy with credit and liquidity risk-taking.

⁴ See e.g. Bernanke and Gertler (1995), Kashyap and Stein (2000), Gertler and Kiyotaki (2010), Adrian and Shin (2010).

⁵ See also Giavazzi and Giovannini (2010).

as culprits of the last crisis, as low long-term interest rates or current account deficits among others. We then analyze whether monetary policy rates affect changes in lending conditions due to changes in bank capital, liquidity and competition and not due to borrowers' changes in net worth and credit risk. The part of lending terms and conditions unrelated to borrower quality, therefore, reflects changes in credit and liquidity risk-taking. Finally, since banks' appetite for higher risk when monetary policy rates are low is due to banks' moral hazard problems, we analyze whether more stringent banking supervision and regulation affect the impact of monetary policy on lending standards. We use two cross-country measures of banking policy stringency, one by the World Bank on the stringency of bank capital supervision and another one – even more related to macro-prudential policy – based on the loan-to-value ratios (LTV) applied in different countries as published in Warnock and Warnock (2008) and IMF (2011).⁶

Second, once the 2008 crisis starts, we analyze whether lower monetary policy rates soften lending conditions in general and lending conditions due to bank capital and liquidity problems. Moreover, we analyze whether the potential softening is stronger in banking systems with more need of liquidity from the Eurosystem, i.e. with weaker banking systems that cannot access private liquidity in wholesale markets.

The empirical analysis of these questions in the Euro area is of particular interest for three main reasons: (i) the European economy and its banking sector were heavily affected since the beginning of the crisis, and still is. (ii) Bank finance constitutes around 75-80% of corporate finance in the Euro Area. (iii) Monetary policy (nominal) rates in the Euro area are identical across countries, but there are significant differences in terms of GDP and inflation.⁷

⁶ See Barth, Caprio and Levine (2006) and IMF (2011).

⁷ See e.g. Camacho et al. (2008).

Moreover, banking supervision (and even somewhat regulation) is a responsibility of the national authorities, whereas the monetary policy is set by the Governing Council of the European Central Bank (ECB). Furthermore, as we will discuss later, through time fixed effects we can control for unobservable time-varying common shocks that affect the monetary policy decisions of the ECB. In this case, the identification of monetary policy is largely cross-sectional which avoids the typical endogeneity problems of monetary policy to local economic conditions.

Another major identification challenge faced when analyzing the credit channel of monetary policy is to disentangle the effect of changes in loan demand and in loan supply. It is very difficult to obtain data on the lending standards applied to the pool of potential borrowers (including households and firms that were rejected), and to know whether, how and why banks change their lending standards. For identification, we use the detailed answers of the confidential and unique Bank Lending Survey (BLS) for the Euro area countries. Euro area national central banks request banks to provide quarterly information on the lending standards that they apply to firms and households. The detailed information reported is very reliable, not least because the surveys are carried out by central banks, which are in most cases the bank supervisors and can cross-check the information received with exhaustive hard banking data.⁸

Key information to analyze credit and liquidity risk by banks, the BLS reports on the factors affecting banks' lending standard decisions. These factors can be grouped into (i) quality of loan applicants (credit risk) – related to the net worth, collateral and risk of

⁸ See Del Giovane et al. (2010) for an example of publicly available cross-checking using detailed supervisory data on bank lending from Italy. It should be noted that the lending standards from the surveys are not only correlated with actual credit spreads and volume (see Ciccarelli et al., 2011) but are also good predictors of credit and output growth (see Lown and Morgan, 2006, for the U.S. evidence, and De Bondt et al, 2010, for the Euro area).

borrowing firms and households – and into (ii) risk-taking – i.e., changes in lending conditions not related to borrowers’ credit risk, but related to bank balance-sheet capacity and competition. This detailed information is therefore crucial to identify the impact of monetary policy on loan supply and risk-taking.

We find robust evidence that – prior to the start of the 2008 crisis – low (monetary policy) short-term interest rates soften lending conditions and terms, for both firms and households.⁹ Furthermore, low short-term rates also soften lending standards when we only analyze changes in loan conditions and terms due to changes in bank net worth – i.e., risk-taking. Moreover, the impact of low short-term rates on credit and liquidity risk-taking is statistically and economically more significant than the effect of low long-term interest rates or current account deficits. In fact, we do not find robust evidence that low long-term rates and current account deficits correlate with soft lending standards. Finally, we find that the impact of low monetary policy rates on the softening of lending standards is reduced by more stringent policy on either bank capital or LTV.

We find evidence that – after the start of the 2008 crisis – low (monetary policy) short-term interest rates soften lending conditions and terms that were due to bank capital and liquidity constraints. Moreover, these effects are stronger for banks that need more the liquidity provided by the ECB (which reinforces the credit supply mechanism). Finally, our results suggest that the impact of a monetary policy interest rate shock on GDP through the credit supply channel is stronger during periods of crisis and for countries facing more bank fragility (due also to the sovereign debt crisis).¹⁰

⁹ Robustness implies the inclusion of country and time fixed effects and other potentially important variables as real estate prices, different clustering of standard errors, and considering either nominal, real or Taylor residuals as monetary policy short-term rates.

¹⁰ The credit supply channel is identified as in Ciccarelli, Maddaloni and Peydró (2011).

In this paper not only we empirically analyze the Euro area, but we also provide a summary of our related research using very detailed loan-level data from Spain. We provide this summary since Spain provides a better identification setting due to the availability of loan-level data, in a setting where monetary policy decisions are taken by the Governing Council of the ECB and Spain does not belong to the core of the Euro area countries. In addition, we study the effects of the implementation of macro-prudential measures of counter-cyclical capital requirements through dynamic provision that were implemented by the Bank of Spain. Crucially, the results at the Euro area level are consistent with the Spanish evidence by Jiménez, Ongena, Peydró and Saurina (2011a, 2011b and 2011c).

Our contributions to the literature are the following: (i) given the data available from the BLS, we analyze whether there is evidence of credit and liquidity risk-taking by focusing on changes in lending standards not related to firm or household fundamentals, but due to changes in bank net worth (capital, liquidity and competition). In contrast, in Maddaloni and Peydró (2011) we analyze changes in *overall* lending conditions (which are due to the sum of borrowers' quality and banks' net worth). (ii) We then analyze the impact on lending standards (risk-taking) of short-term monetary policy rates versus current account deficits and long-term interest rates. (iii) We analyze the impact on lending standards of the interaction between monetary policy and macro-prudential policy using an important instrument as LTV restrictions. (iv) We also analyze loan conditions such as loan maturity, collateral and spreads on riskier borrowers.¹¹ Finally, and more importantly, we connect in the same paper the two sides of the paradox of too low monetary policy rates. In addition, we link and relate micro country based evidence (from Spain) with probably higher internal validity with broad based Euro area evidence that has probably more external validity.

¹¹ This will appear in the next version of the paper.

The rest of the paper proceeds as follows. Section II reviews the loan-level data evidence from Spain on both monetary policy and macro-prudential policy. Section III describes the Euro area data. Section IV discusses the results, and Section IV presents the conclusions.

2. Evidence from Spain

We summarize in this section loan-level evidence by Jiménez, Ongena, Peydró and Saurina (2011a, 2011b and 2011c) on monetary policy and dynamic provisioning on credit supply and risk-taking.

Jiménez et al. identify the effects of monetary policy on credit supply and bank risk-taking with an exhaustive dataset from credit register containing loan contracts and applications since 1984. They separate the compositional changes in the credit supply from the demand and firm balance-sheet channels by accounting for both observed and unobserved time-varying firm heterogeneity through time*firm fixed effects. Before the crisis, a lower overnight interest rate induces lower capitalized banks (with higher moral hazard problems) to expand and prolong credit to riskier firms, and to lend to riskier new applicants, granting them loans that are larger and longer-term. A lower long-term rate, however, has smaller or no such effects. After the crisis started, lower overnight rates help to support credit supply, especially for the banks with lower capital ratios.

Countercyclical capital buffers through dynamic provisioning policy shocks help to mitigate bank credit supply cycles. They strongly contracted credit availability (volume and cost) during good times, but strongly expanded it during the recent crisis (and weaker banks more affected). Moreover, they have positive aggregate firm-level real effects: Firm bank

credit availability and real variables are almost not affected in good times, but there is a strong positive impact in crisis times for firm credit availability, employment, total assets, and survival – and smaller firms benefit more in crisis times. The evidence does not point out to a reduction of risk-taking in good times. All in all, results indicate that the main benefits of counter-cyclical capital buffers are during crisis times, when, by reducing credit supply volatility, they have strong aggregate positive real effects in the economy.

3. Data

Lending standards

The main dataset used in the study are the answers from the Bank Lending Survey for the Euro area (the BLS). National central banks request that banks (senior loan officers, such as the chairperson of the bank's credit committee) provide quarterly information on the lending standards they apply to customers and on the loan demand they receive, distinguishing between business, mortgage, and consumer loans. Concerning the supply of credit, attention is given to changes in lending standards, to the factors responsible for these changes, and to the different credit conditions and terms applied to customers (i.e., whether, why, and how lending standards are changed).

The Euro area results of the survey – a weighted average of the answers received by banks in each Euro area country – are published every quarter on the website of the ECB. In a few countries the aggregate answers of the domestic samples are published by the respective national central banks. However, the overall sample including all the answers at the country and bank level is confidential.

Data from the Euro area BLS are available since 2002:Q4. The main set of questions did not change since the start of the survey. While the current sample covers the banking sector in the 17 countries comprising the Euro area, we restrict the analysis to the 12 countries in the monetary union as of 2002:Q4, thus we work with a balanced panel. Over this period we consistently have data for Austria, Belgium, France, Finland, Germany, Greece, Ireland, Italy, Luxembourg, Netherlands, Portugal, and Spain. The sample of banks is representative of the banking sector in each country.¹² This implies that it may comprise banks of different size, although some preference was given to the inclusion of large banks. In the first part of the paper, we examine the impact of monetary policy on lending conditions and standards (bank risk-taking as defined in the Introduction) before the start of the financial crisis, i.e. we stop the analysis in 2008:Q3. In the second part we analyze the crisis periods up to 2011:Q2, where the Eurosystem implemented non-standard measures of liquidity provision to the banking sector (full allotment and long-term liquidity) apart from monetary policy rate changes.

Since we are interested in the actual lending decisions by banks, we use the answers related to changes in lending standards over the previous three months (see Berg et al. (2003) for a detailed description of the BLS questions). The questions imply only qualitative answers and no figures are required: banks indicate softening, tightening or no change of standards. Following for instance Lown and Morgan (2006), we quantify the different answers on standards by using the net percentage of banks that have tightened their lending standards over the previous quarter, which is defined as follows: the difference between the percentage of banks reporting a tightening of lending standards and the percentage of banks reporting a

¹² When foreign banks are part of the sample, the lending standards refer to the credit policy in the domestic market.

softening of standards. Therefore, a positive figure indicates a net tightening of lending standards.¹³ We use this variable for corporate, mortgage, and consumer loans.

Not only for the purpose of analyzing credit and liquidity risk-taking as we discussed in the Introduction but also how standard and non-standard monetary policy affects lending decisions of banks, we use in particular the questions on balance sheet factors affecting the decision to change lending standards. In other words we focus on the role that low interest rates and liquidity provision may play in relaxing bank balance sheet constraints and ultimately support bank lending to the non-financial sector. We also use the answers related to balance sheet factors to analyze the effect of different supervision standards for bank capital and different norms in terms of loan-to-value ratio across countries.

Table 1 and 5 describes the summary statistics of overall lending standards and lending standards due to change in balance sheet factors before the crisis (Table 1) and during the crisis (Table 5).

Macroeconomic and financial variables

The macro and financial variables included in the main analysis are short-term (monetary policy) rates, long-term (government bond) interest rates, current account balance (over GDP), GDP growth, inflation, supervision standards for bank capital and restrictions on LTVs. In the analysis after the crisis we also use data on liquidity operations of the Eurosystem, in particular long-term liquidity (from 3-month to 1-year maturity) and the net

¹³ The use of this statistic implies that no distinction is made for the degree of tightening (softening) of lending standards in the replies. The results obtained using diffusion indexes, using weights for the degrees of tightening (softening), do not differ from those obtained with net percentages, hence, we do not report them as they also imply discretion when choosing the weights.

liquidity position (the difference at the country level between the liquidity absorbed by the banking sector and the liquidity deposited at the ECB deposit facility).

For monetary policy, we use the quarterly average of overnight interest rates, the EONIA rate for the Euro area (as published by the ECB). Monetary conditions are also proxied by the Taylor rule residuals obtained by regressing the overnight rates on GDP growth and inflation.¹⁴ We estimate the residuals for the Euro area with panel least squares (LS) regressions, imposing common coefficients for all 12 countries, given the common monetary policy. A positive residual indicates relatively high monetary policy rates (tight monetary conditions), while negative residuals proxy for low rates (soft conditions).

To assess the impact of long-term rates, we use the 10-year government bond interest rates for each Euro area country. We also include in the regressions before the crisis the current account balance for each country (as % of GDP). The main macroeconomic controls are the annual real GDP growth rate and the inflation rate, defined as the quarterly average of monthly inflation rates expressed in annual terms.

Given that regulatory arbitrage for bank capital seems to have been key in precipitating the financial crisis (Acharya and Richardson 2010), we use a measure of supervision standards for bank capital, a bank capital stringency index. Capital stringency is an index of regulatory oversight of bank capital; it does not measure statutory capital requirements but the supervisory approach to assessing and verifying the degree of bank capital at risk (Barth, Caprio, Levine 2006; Laeven and Levine 2009).

¹⁴ Bernanke and Blinder (1992) and Christiano, Eichenbaum, and Evans (1996), among others, use the overnight interest rate as the indicator of the U.S. stance of monetary policy. In the Euro area, the Governing Council of the ECB determines the corridor within which the overnight money market rate (EONIA) can fluctuate. Therefore, the overnight rate is also a sensible measure of the monetary policy stance in the Euro area. For robustness, we have also used different Taylor rule specifications, both for the overnight and the 3-month EURIBOR [e.g., the rate implied by a standard Taylor rule with coefficients 0.5 for both inflation and output gap (see Taylor 1993)].

A measure that it is often mentioned as a possible tool for macroprudential policy is the Loan-to-value ratio applied to mortgage loans. We use a measure of the LTV ratio restrictions applied in different Euro area countries; we take this information from a recent IMF publication (IMF (2011)). See Table 1 and 5 for the summary statistics of these variables.

4. Results

We first analyze the lending conditions and standards before the 2008 crisis (Tables 1 to 4), and then we analyze them during the crisis (Tables 5 to 8).

Lending conditions and standards before the crisis

The results are reported as follows. First, we analyze the impact of short-term interest rates on overall lending conditions (Table 2). Then, we analyze the impact of monetary policy on changes in lending conditions due to changes in bank net worth (Table 3, our main regressions). Finally, in Table 4 we analyze the interaction of monetary policy and banking policy on lending conditions and standards.

Table 2 shows that lower monetary policy rates imply a posterior softening of overall lending conditions, either using overnight rates or Taylor-rule residuals. Results are robust to the inclusion of time fixed effects to control for unobservable time-varying shocks that affect lending standards and ECB monetary policy decisions. Panel A shows the results when including country fixed effects and Panel B shows them without country fixed effects.¹⁵

Table 2 shows that although lower monetary policy rates are followed by soften lending conditions, this is not the case in general for lower long-term rates except for mortgages.

¹⁵ Results reported in the Tables are from GLS panel regressions where we also impose a correlated structure across panels for the standard errors and autocorrelation of order one (see Maddaloni and Peydró (2011) for a detailed description of the methodology).

Current account balance is not highly correlated with lending conditions and, if anything, current account deficits are associated to tighter lending conditions. Finally, considering the information from the summary statistics of Table 1 and the coefficients of Table 2, monetary policy is also economically significant in explaining lending conditions.

Table 3 shows our most important dependent variable – i.e. change in lending conditions due to changes in bank net worth stemming from changes in bank capital, liquidity and competition (thereby changes in these variables suggest changes in credit and liquidity risk-taking). Results suggest that lower monetary policy rates imply a posterior softening of lending standards, either using overnight rates or Taylor-rule residuals, and independently of country and time fixed effects (see the different columns and Panels). The coefficients of current account balance and long-term rates are instead not statistically robust, which suggest that the impact of low short-term rates on credit and liquidity risk-taking is statistically and economically more significant than the effect of low long-term interest rates or current account deficits.

Finally, in Table 4 we analyze the interaction between monetary policy rates (either nominal rates or Taylor-rule residuals) with banking supervision/regulation measures. We use two key measures, one on bank capital and one on restrictions on LTVs. We find some evidence that the impact of low monetary policy rates on the softening of lending standards is reduced by more stringent policy on either bank capital or LTV. Note that this is not the case with overall lending conditions but interestingly it is only with lending standards due to change in balance sheet factors – notably, change in lending conditions due to bank capital for the capital supervision measure and with change in lending conditions due to bank competition for the LTV measure, which further reinforces the interpretation that more

stringent bank supervision policy reduces the impact of low monetary policy rates on the softening of lending standards. All these results obtained with aggregate data from the Euro area countries are consistent with Jiménez et al. (2011b and 2011c) for the case of Spain.

Lending conditions and standards during the crisis

The results are reported as follows. We first analyze the impact of short-term interest rates on overall lending conditions during the crisis (Table 6) and we also differentiate between countries by using the liquidity borrowed from the Eurosystem as explained in Section 3. Then, we analyze the impact on lending conditions that change due to changes in bank net worth (Table 7, our key regressions). Finally, in Table 8 we analyze some specific questions during the crisis related to specific bank liquidity problems that led to tightening of lending standards to further reinforce the interpretation of our results.

From Table 7, we find evidence that – after the start of the 2008 crisis – low (monetary policy) short-term interest rates soften lending conditions and terms that were due to bank capital and liquidity constraints. That is, lower monetary policy rates by improving bank liquidity and capital increase credit availability for firms and households. Moreover, these effects are stronger for banks that need more the liquidity provided by the ECB, which reinforces the credit supply mechanism. Furthermore, Table 8 suggest that given the liquidity problems of banks, lower monetary policy rates combined with access to public Eurosystem liquidity provision reduce bank problems thereby allowing banks not to tighten so much their lending standards, and therefore contribute to credit availability for firms and households (a result similar to Jiménez et al., 2011a) for the case of Spain.

Finally, using the methodology of Ciccarelli, Maddaloni and Peydró (2011), we find via a historical shock decomposition (see Figure 1) that monetary policy rates contributed to support GDP during the crisis and that bank capital and liquidity problems through the tightening of lending conditions contributed to lower GDP. In addition, Figure 2 shows that the impact of a monetary policy interest rate shock on GDP through the credit supply channel is stronger during periods of crisis for countries facing sovereign and bank stress. A result that suggests that monetary policy reductions are specially needed in these countries to support real activity through bank credit supply.

5. Conclusions

Commentators and academics have since the beginning of the 2008 crisis argued that keeping monetary policy rates too low can increase banks' appetite for credit and liquidity risk due to banks' moral hazard problems. This, in turn, increases the likelihood of a financial crisis originating by the accumulation of bank risk. But once the risk in the balance sheets of banks realizes and the crisis starts, the banking sector may then need low monetary policy rates to support credit supply for firms and households – especially for the banks with weaker balance sheets.

In this paper we empirically analyze this paradox for the Euro area and our evidence is consistent with this paradox, both in Euro area and in Spain. We believe that our findings shed light on the impact of monetary policy on lending conditions, with important implications concerning the origins and development of the current crisis, but also have important forward-looking policy implications. In particular, results suggest that monetary policy rates affect financial stability and its impact depend on bank balance sheet strength and banking

supervision/regulation. Therefore, monetary policy and macro-prudential policy should be related. Monetary policy decisions should pay more attention to financial stability issues, while banking supervision and regulation should take into account monetary policy effects. For example, in some cases monetary policy may have to lean against the wind in good times; strong banking supervision and regulation may (e.g. LTV values or pro-cyclical capital requirements) may alleviate the need for monetary policy to act counter cyclically. In crisis times there will be less need for low monetary policy rates if banking supervision and regulation were stronger before the crisis and, hence, the balance sheets of banks are stronger in crisis times. Our results, therefore, support the new responsibilities central banks on macro-prudential regulation, in particular the new responsibilities of the European Central Bank and of the Federal Reserve on macro-prudential supervision to monitor systemic risk.

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Table 1 Summary Statistics of the analysis before the crisis

	Mean	Std. Dev.	Min	Max
Overnight rates	2.78	0.80	2.02	4.05
Taylor rule residuals	-0.14	0.77	-1.38	1.44
10-year rates	3.96	0.50	2.20	5.22
Current Account Balance	0.52	7.50	-19.59	22.39
GDP growth	2.72	1.87	-1.86	8.08
Inflation	2.43	0.94	-0.17	4.98
Capital stringency index	5.25	1.18	3.00	7.00
Loan-to-value ratio (in %)	71.80	10.80	55.00	87.00
Total lending standards				
for business loans	16.23	30.46	-50	100
for mortgage loans	3.01	28.09	-75	100
for consumer loans	6.03	22.56	-35.71	100
Lending standards due to balance sheet factors				
all balance sheet factors for business loans	7.69	15.59	-25	86.67
capital position of banks for business loans	11.37	18.44	-25	100
liquidity position of banks for business loans	4.27	15.20	-40	80
market financing of banks for business loans	7.43	20.27	-40	100
all balance sheet factors for mortgage loans	4.55	14.53	-66.67	80
all balance sheet factors for consumer loans	3.93	15.54	-33.33	100

Table 2

Panel A : The impact of monetary policy

	Business Loans			Lending conditions				Consumer Loans				
				Mortgage Loans								
	1	2	3	4	5	6	7	8	9	10	11	12
Overnight rate $t-1$	14.25 [8.73]***	12.24 [6.43]***			9.18 [7.95]***	4.88 [3.95]***			6.79 [10.64]***	6.02 [7.11]***		
Taylor-rule residuals $i,t-1$			12.24 [6.43]***	25.93 [7.87]***			4.88 [3.95]***	13.73 [10.68]***			6.02 [7.11]***	4.79 [5.22]***
Current account balance $i,t-1$		-0.57 [2.17]**	-0.57 [2.17]**	-0.60 [2.04]**		-0.82 [2.81]***	-0.82 [2.81]***	-0.72 [2.10]**		-0.35 [1.63]	-0.35 [1.63]	-0.28 [1.02]
10 -year rate $i,t-1$		3.23 [1.06]	3.23 [1.06]	-13.34 [2.04]**		9.15 [4.59]***	9.15 [4.59]***	1.75 [0.28]		0.56 [0.43]	0.56 [0.43]	-5.99 [1.32]
GDP growth $i,t-1$	-3.19 [5.33]***	-2.85 [4.59]***	-2.65 [4.31]***	-1.27 [1.81]*	-2.92 [4.13]***	-2.23 [3.38]***	-2.15 [3.30]***	-0.86 [0.93]	-3.19 [7.63]***	-3.06 [7.41]***	-2.96 [7.28]***	-1.25 [2.20]**
Inflation $i,t-1$	1.53 [1.24]	2.15 [1.68]*	5.52 [4.30]***	6.63 [4.88]***	0.31 [0.27]	1.63 [1.63]	2.98 [3.09]***	1.62 [0.93]	0.80 [1.22]	1.16 [1.75]*	2.82 [4.55]***	-1.50 [1.27]
Lagged lending conditions	0.51 [11.91]***	0.49 [11.28]***	0.49 [11.28]***	0.37 [6.22]***	0.48 [10.93]***	0.43 [9.75]***	0.43 [9.75]***	0.40 [8.24]***	0.52 [12.14]***	0.51 [11.36]***	0.51 [11.36]***	0.45 [8.27]***
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Time fixed effects	no	no	no	yes	no	no	no	yes	no	no	no	yes
# of observations	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12

Table 2

Panel B: The impact of monetary policy (no country fixed effects)

	Lending conditions											
	Business Loans				Mortgage Loans				Consumer Loans			
	1	2	3	4	5	6	7	8	9	10	11	12
Overnight rate $t-1$	12.80 [7.72]***	12.89 [6.64]***			7.32 [7.08]***	4.55 [3.90]***			5.53 [8.01]***	5.27 [5.65]***		
Taylor-rule residuals $i,t-1$			12.89 [6.64]***	24.27 [10.19]***			4.55 [3.90]***	14.84 [13.32]***			5.27 [5.65]***	4.72 [6.59]***
Current account balance $i,t-1$		-0.13 [0.93]	-0.13 [0.93]	-0.49 [2.89]***		-0.22 [1.55]	-0.22 [1.55]	-0.58 [3.17]***		-0.18 [1.70]*	-0.18 [1.70]*	-0.60 [3.80]***
10 -year rate $i,t-1$		-0.94 [0.31]	-0.94 [0.31]	-13.90 [2.75]***		7.31 [3.68]***	7.31 [3.68]***	-4.09 [0.83]		-0.09 [0.06]	-0.09 [0.06]	-10.49 [2.58]***
GDP growth $i,t-1$	-1.41 [3.04]***	-1.32 [2.58]***	-1.11 [2.20]**	-0.38 [0.67]	-1.22 [2.19]**	-0.69 [1.22]	-0.61 [1.10]	0.72 [0.99]	-1.31 [3.81]***	-1.19 [3.31]***	-1.10 [3.12]***	0.04 [0.09]
Inflation $i,t-1$	2.51 [2.70]***	2.19 [1.99]**	5.74 [4.81]***	6.93 [6.14]***	1.58 [1.88]*	1.91 [2.35]**	3.16 [3.84]***	2.96 [2.29]**	1.48 [2.35]**	1.19 [1.90]*	2.64 [4.31]***	-0.12 [0.14]
Lagged lending conditions	0.57 [13.42]***	0.57 [13.08]***	0.57 [13.08]***	0.46 [8.10]***	0.60 [14.31]***	0.56 [13.34]***	0.56 [13.34]***	0.55 [11.81]***	0.66 [16.04]***	0.66 [15.62]***	0.66 [15.62]***	0.59 [11.48]***
Country fixed effects	no	no	no	no	no	no	no	no	no	no	no	no
Time fixed effects	no	no	no	yes	no	no	no	yes	no	no	no	yes
# of observations	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12

Table 3

Panel A : Impact of monetary policy (overnight rates) with country fixed effects

	Lending conditions due to balance sheet constraints											
	Business loans						Mortgage loans		Consumer loans			
	Balance sheet constraints		Capital position constraints		Liquidity position constraints		Market financing constraints		Balance sheet constraints		Balance sheet constraints	
	1	2	4	5	7	8	10	11	13	14	16	17
Overnight rate $t-1$	6.30 [9.64]***	4.69 [6.87]***		2.77 [2.78]***	6.53 [9.79]***	3.92 [5.46]***	7.205 [6.84]***	5.09 [4.67]***	3.99 [7.44]***	4.43 [6.75]***	3.823 [9.41]***	3.50 [7.71]***
Current account balance $i,t-1$		-0.36 [3.45]***	-0.233 [1.82]*	-0.32 [2.05]**		-0.51 [3.99]***		-0.26 [1.50]		0.05 [0.62]		-0.15 [2.18]**
10 -year rate $i,t-1$		2.96 [2.93]***	0.666 [0.28]	1.51 [0.92]		4.79 [4.22]***		4.62 [2.62]***		-0.72 [0.87]		0.32 [0.48]
GDP growth $i,t-1$	-1.27 [3.95]***	-1.08 [3.43]***	-0.73 [1.71]*	-1.30 [2.75]***	-0.74 [2.33]**	-0.31 [0.95]	-0.425 [1.06]	-0.32 [0.78]	-0.98 [5.52]***	-1.10 [5.59]***	-0.753 [5.05]***	-0.82 [4.81]***
Inflation $i,t-1$	0.40 [1.00]	0.84 [2.41]**	-2.235 [2.48]**	0.39 [0.59]	0.75 [1.37]	1.52 [3.01]***	0.613 [0.75]	0.91 [1.11]	-0.02 [0.05]	-0.05 [0.11]	0.73 [2.18]**	0.81 [2.39]**
Lagged lending conditions	0.52 [10.73]***	0.50 [10.45]***	0.354 [5.77]***	0.49 [11.36]***	0.44 [8.46]***	0.42 [8.33]***	0.561 [11.19]***	0.54 [10.40]***	0.55 [11.67]***	0.54 [11.22]***	0.606 [13.25]***	0.58 [11.98]***
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Time fixed effects	no	no	yes	no	no	no	no	no	no	no	no	no
# of observations	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12

Table 3

Panel A: Impact of monetary policy (Taylor-rule residuals) with country fixed effects

Lending conditions due to balance sheet constraints

	Balance sheet constraints for business loans		Capital position constraints		Liquidity position constraints		Market financing constraints		Balance sheet constraints for mortgages		Balance sheet constraints for consumer loans	
	1	2	3	4	5	6	7	8	9	10	11	12
Taylor-rule residuals $t-1$	4.69	7.95	2.77	7.45	3.92	3.49	5.09	12.24	4.43	7.11	3.50	4.76
	[6.87]***	[6.26]***	[2.78]***	[9.16]***	[5.46]***	[5.16]***	[4.67]***	[7.03]***	[6.75]***	[17.87]***	[7.71]***	[20.26]***
Current account balance $i,t-1$	-0.36	-0.22	-0.32	-0.17	-0.51	-0.46	-0.26	-0.13	0.05	0.10	-0.15	-0.06
	[3.45]***	[1.72]*	[2.05]**	[0.75]	[3.99]***	[2.72]***	[1.50]	[0.70]	[0.62]	[1.27]	[2.18]**	[0.81]
10-year rate $i,t-1$	2.96	1.21	1.51	-5.12	4.79	8.69	4.62	8.54	-0.72	-3.14	0.32	-3.42
	[2.93]***	[0.51]	[0.92]	[1.10]	[4.22]***	[2.41]**	[2.62]***	[2.51]**	[0.87]	[2.50]**	[0.48]	[3.42]***
GDP growth $i,t-1$	-1.01	-0.75	-1.26	-0.23	-0.24	0.18	-0.24	0.02	-1.03	-1.24	-0.76	-0.39
	[3.25]***	[1.71]*	[2.68]***	[0.38]	[0.77]	[0.40]	[0.59]	[0.04]	[5.31]***	[5.15]***	[4.55]***	[1.90]*
Inflation $i,t-1$	2.14	0.05	1.15	0.33	2.60	0.43	2.32	1.14	1.17	0.69	1.77	1.08
	[6.22]***	[0.08]	[1.79]*	[0.27]	[4.87]***	[0.43]	[2.83]***	[1.14]	[2.63]***	[1.03]	[5.36]***	[2.22]**
Lagged lending conditions	0.50	0.37	0.49	0.50	0.42	0.43	0.54	0.30	0.54	0.40	0.58	0.46
	[10.45]***	[6.03]***	[11.36]***	[8.97]***	[8.33]***	[7.31]***	[10.40]***	[4.72]***	[11.22]***	[6.67]***	[11.98]***	[7.44]***
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Time fixed effects	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
# of observations	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12

Table 3

Panel B: Impact of Monetary Policy (overnight rates) without country fixed effects

	Lending conditions due to balance sheet constraints											
	Balance sheet constraints for business loans		Capital position constraints		Liquidity position constraints		Market financing constraints		Balance sheet constraints for mortgages		Balance sheet constraints for consumer loans	
	1	2	3	4	5	6	7	8	9	10	11	12
Overnight rates $t-1$	5.93 [8.82]***	5.23 [6.43]***	3.52 [3.88]***	3.64 [3.08]***	5.86 [8.29]***	4.80 [5.67]***	6.82 [6.34]***	5.47 [4.56]***	3.34 [7.79]***	3.71 [5.64]***	3.58 [8.97]***	3.37 [6.72]***
Current account balance $i, t-1$		-0.12 [1.97]**		-0.08 [0.79]		-0.22 [3.08]***		-0.04 [0.48]		-0.08 [1.64]		-0.07 [1.76]*
10-year rate $i, t-1$		1.11 [1.00]		-0.54 [0.30]		2.95 [2.31]**		3.44 [1.98]**		-0.87 [0.96]		0.05 [0.08]
GDP growth $i, t-1$	-0.51 [2.38]**	-0.40 [1.81]*	-0.66 [2.32]**	-0.61 [1.97]**	-0.43 [1.64]	-0.26 [1.04]	0.17 [0.65]	0.32 [1.18]	-0.46 [3.89]***	-0.51 [2.87]***	-0.43 [4.24]***	-0.38 [2.86]***
Inflation $i, t-1$	0.77 [2.19]**	0.65 [1.84]*	1.16 [2.27]**	0.98 [1.80]*	0.99 [2.15]**	0.48 [0.95]	0.01 [0.02]	0.10 [0.15]	0.70 [2.55]**	0.42 [1.41]	0.83 [3.62]***	0.78 [3.26]***
Lagged lending conditions $i, t-1$	0.59 [13.26]***	0.58 [13.74]***	0.58 [14.63]***	0.59 [14.69]***	0.53 [10.76]***	0.50 [10.27]***	0.60 [13.15]***	0.58 [12.52]***	0.63 [13.97]***	0.60 [12.21]***	0.66 [14.84]***	0.67 [14.56]***
Country fixed effects	no	no	no	no	no	no	no	no	no	no	no	no
Time fixed effects	no	no	no	no	no	no	no	no	no	no	no	no
# of observations	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12

Table 3

Panel B: Impact of Monetary Policy (Taylor-rule residuals) without country fixed effects

Lending conditions due to balance sheet constraints

	Balance sheet constraints for business loans			Capital position constraints			Liquidity position constraints			Market financing constraints			Balance sheet constraints for mortgages			Balance sheet constraints for consumer loans		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Taylor-rule residuals $i,t-1$	5.93	5.23	5.92	3.52	3.64	7.43	5.86	4.80	3.93	6.82	5.47	10.93	3.34	3.71	6.24	3.58	3.37	4.11
	[8.82]***	[6.43]***	[6.31]***	[3.88]***	[3.08]***	[11.07]***	[8.29]***	[5.67]***	[6.55]***	[6.34]***	[4.56]***	[7.50]***	[7.79]***	[5.64]***	[16.57]***	[8.97]***	[6.72]***	[10.44]***
Current account balance $i,t-1$		-0.12	-0.22		-0.08	-0.24		-0.22	-0.30		-0.04	-0.09		-0.08	-0.23		-0.07	-0.20
		[1.97]**	[3.03]***		[0.79]	[2.15]**		[3.08]***	[3.24]***		[0.48]	[0.89]		[1.64]	[3.76]***		[1.76]*	[3.54]***
10-year rate $i,t-1$		1.11	-3.05		-0.54	-6.35		2.95	2.56		3.44	5.08		-0.87	-5.12		0.05	0.39
		[1.00]	[1.46]		[0.30]	[1.85]*		[2.31]**	[0.92]		[1.98]**	[1.68]*		[0.96]	[3.45]***		[0.08]	[0.09]
GDP growth $i,t-1$	-0.42	-0.31	-0.15	-0.60	-0.55	0.02	-0.33	-0.18	0.35	0.28	0.41	0.63	-0.40	-0.45	-0.56	-0.37	-0.32	-0.23
	[1.97]**	[1.46]	[0.52]	[2.13]**	[1.80]*	[0.04]	[1.29]	[0.75]	[1.08]	[1.06]	[1.50]	[1.56]	[3.46]***	[2.59]***	[2.45]**	[3.70]***	[2.50]**	[1.04]
Inflation $i,t-1$	2.41	2.09	0.54	2.13	1.98	1.03	2.60	1.80	-0.06	1.89	1.61	1.13	1.62	1.44	1.02	1.82	1.71	1.01
	[6.17]***	[5.65]***	[1.05]	[3.94]***	[3.48]***	[1.05]	[5.14]***	[3.28]***	[0.08]	[2.86]***	[2.40]**	[1.42]	[5.45]***	[4.51]***	[2.36]**	[7.32]***	[6.72]***	[2.25]**
Lagged lending conditions $i,t-1$	0.59	0.58	0.46	0.58	0.59	0.59	0.53	0.50	0.50	0.60	0.58	0.36	0.63	0.60	0.50	0.66	0.67	0.56
	[13.26]***	[13.74]***	[8.20]***	[14.63]***	[14.69]***	[11.53]***	[10.76]***	[10.27]***	[9.05]***	[13.15]***	[12.52]***	[5.85]***	[13.97]***	[12.21]***	[8.35]***	[14.84]***	[14.56]***	[9.87]***
Country fixed effects	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no	no
Time fixed effects	no	no	yes	no	no	yes	no	no	yes	no	no	yes	no	no	no	no	no	yes
# of observations	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 4

Panel A : Interaction between monetary policy and bank capital stringency															
	Lending conditions														
	Business Loans					Mortgage Loans					Consumer Loans				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Overnight rates $t-1$	0.75 [0.12]	0.69 [0.11]				-24.73 [3.70]***	-25.36 [3.70]***				-17.55 [3.05]***	-17.69 [3.05]***			
Capital stringency $i,t-1$	-25.74 [1.76]*	-24.11 [1.64]	-25.74 [1.76]*	-46.86 [2.65]***	-24.11 [1.64]	-54.37 [3.29]***	-51.61 [3.09]***	-54.37 [3.29]***	-48.99 [2.36]**	-51.61 [3.09]***	-23.94 [1.71]*	-24.02 [1.71]*	-23.94 [1.71]*	-20.08 [1.01]	-24.02 [1.71]*
Overnight rates*capital stringency $i,t-1$	7.91 [1.96]*	7.44 [1.83]*				20.56 [4.62]***	19.32 [4.27]***				14.52 [3.96]***	14.55 [3.96]***			
Taylor rule residuals $i,t-1$			0.75 [0.12]	-5.83 [0.76]	0.69 [0.11]			-24.73 [3.70]***	-14.58 [1.64]	-25.36 [3.70]***			-17.55 [3.05]***	-15.29 [1.81]*	-17.69 [3.05]***
Taylor rule residuals*capital stringency $i,t-1$			7.91 [1.96]*	11.30 [2.42]**	7.44 [1.83]*			20.56 [4.62]***	17.60 [3.18]***	19.32 [4.27]***			14.52 [3.96]***	12.29 [2.41]**	14.55 [3.96]***
Current Account balance $i,t-1$	-0.62 [2.39]**	-0.60 [2.27]**	-0.62 [2.39]**	-0.53 [1.77]*	-0.60 [2.27]**	-0.62 [2.14]**	-0.67 [2.38]**	-0.62 [2.14]**	-0.62 [1.96]**	-0.67 [2.38]**	-0.34 [1.76]*	-0.34 [1.78]*	-0.34 [1.76]*	-0.03 [0.14]	-0.34 [1.78]*
10-year rate $i,t-1$		2.47 [0.82]			2.47 [0.82]		7.47 [4.05]***			7.47 [4.05]***		0.24 [0.21]			0.24 [0.21]
GDP growth $i,t-1$	-2.99 [4.86]***	-2.99 [4.83]***	-2.97 [4.82]***	-1.83 [2.60]***	-2.98 [4.78]***	-2.56 [3.97]***	-2.28 [3.65]***	-2.95 [4.55]***	-2.40 [2.59]***	-2.68 [4.25]***	-2.92 [8.07]***	-2.92 [8.07]***	-3.20 [8.58]***	-1.34 [1.88]*	-3.20 [8.58]***
Inflation $i,t-1$	2.04 [1.61]	2.09 [1.61]	2.25 [1.05]	-2.41 [0.92]	2.28 [1.05]	-0.01 [0.01]	0.82 [0.81]	-6.82 [3.04]***	-6.48 [2.09]**	-6.16 [2.74]***	0.44 [0.67]	0.45 [0.69]	-4.40 [2.56]**	-7.19 [2.65]***	-4.42 [2.56]**
Lagged lending conditions	0.50 [11.77]***	0.49 [11.20]***	0.50 [11.77]***	0.38 [6.40]***	0.49 [11.20]***	0.47 [10.65]***	0.43 [9.94]***	0.47 [10.65]***	0.39 [7.99]***	0.43 [9.94]***	0.52 [12.49]***	0.52 [12.08]***	0.52 [12.49]***	0.48 [9.19]***	0.52 [12.08]***
Time fixed effects	no	no	no	yes	no	no	no	no	yes	no	no	no	no	yes	no
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
# of observations	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00	276.00
# of countries	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00	12.00

Table 4

Panel B: Interaction between monetary policy and bank capital stringency

	Lending conditions due to balance sheet constraints																							
	For business loans												For mortgage loans				For consumer loans							
	All balance sheet factors				Capital position				Liquidity position				Market financing				All balance sheet factors				All balance sheet factors			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Overnight rates $t-1$	10.44	10.34			14.44	14.00			18.02	17.52			-2.92	-2.96			3.79	3.34			-0.22	-0.45		
	[3.77]***	[3.77]***			[5.83]***	[5.57]***			[6.31]***	[6.47]***			[0.85]	[0.84]			[1.29]	[1.12]			[0.08]	[0.17]		
Capital stringency $i,t-1$	3.51	6.39	3.51	3.14	8.64	9.14	8.64	9.82	27.55	31.16	27.55	21.42	-34.90	-31.11	-34.90	-43.34	-0.99	-2.81	-0.99	5.34	-8.57	-9.01	-8.57	-2.54
	[0.51]	[0.92]	[0.51]	[0.39]	[1.64]*	[1.75]*	[1.64]*	[0.96]	[4.29]***	[4.90]***	[4.29]***	[2.56]**	[3.95]***	[3.43]***	[3.95]***	[4.63]***	[0.15]	[0.39]	[0.15]	[0.61]	[1.44]	[1.48]	[1.44]	[0.35]
Overnight rates*capital stringency $i,t-1$	-3.47	-4.21			-6.89	-7.01			-8.16	-9.19			6.18	5.12			0.22	0.74			2.37	2.45		
	[1.86]*	[2.24]**			[4.66]***	[4.76]***			[4.58]***	[5.21]***			[2.51]**	[2.03]**			[0.12]	[0.37]			[1.50]	[1.53]		
Taylor rule residuals $i,t-1$			10.44	12.71			14.44	16.17			18.02	16.84			-2.92	-4.49			3.79	8.29			-0.22	2.94
			[3.77]***	[3.43]***			[5.83]***	[3.47]***			[6.31]***	[4.67]***			[0.85]	[1.05]			[1.29]	[1.89]*			[0.08]	[0.94]
Taylor rule residuals*capital stringency $i,t-1$			-3.47	-3.48			-6.89	-6.32			-8.16	-7.86			6.18	8.09			0.22	-1.73			2.37	1.17
			[1.86]*	[1.69]*			[4.66]***	[2.19]**			[4.58]***	[3.72]***			[2.51]**	[3.04]***			[0.12]	[0.66]			[1.50]	[0.62]
Current Account balance $i,t-1$	-0.35	-0.36	-0.35	-0.24	-0.44	-0.44	-0.44	-0.13	-0.62	-0.61	-0.62	-0.61	-0.19	-0.21	-0.19	-0.17	0.04	0.04	0.04	0.14	-0.12	-0.14	-0.12	-0.02
	[3.29]***	[3.31]***	[3.29]***	[1.88]*	[3.26]***	[3.34]***	[3.26]***	[0.59]	[4.67]***	[4.64]***	[4.67]***	[3.83]***	[1.13]	[1.32]	[1.13]	[0.92]	[0.53]	[0.46]	[0.53]	[1.70]*	[1.68]*	[1.97]**	[1.68]*	[0.24]
10-year rate $i,t-1$		3.18				1.70				5.26				4.46				-0.79				0.22		
		[2.58]***				[1.07]				[4.18]***				[2.73]***				[0.83]				[0.33]		
GDP growth $i,t-1$	-0.99	-1.02	-0.82	-0.69	-1.35	-1.35	-1.12	-0.10	-0.39	-0.43	-0.11	0.07	-0.24	-0.26	-0.29	0.09	-1.14	-1.15	-1.08	-1.29	-0.79	-0.80	-0.79	-0.56
	[3.09]***	[3.13]***	[2.60]***	[1.59]	[3.02]***	[3.04]***	[2.52]**	[0.17]	[1.17]	[1.32]	[0.32]	[0.16]	[0.62]	[0.67]	[0.73]	[0.17]	[5.38]***	[5.43]***	[5.10]***	[4.65]***	[4.68]***	[4.55]***	[4.73]***	[2.38]**
Inflation $i,t-1$	0.69	0.93	3.57	1.58	0.49	0.43	4.47	2.43	1.82	2.14	6.78	5.29	0.53	0.56	-0.28	-3.88	-0.07	-0.10	0.98	0.97	0.80	0.84	0.74	0.60
	[1.46]	[2.03]**	[3.71]***	[1.41]	[0.93]	[0.81]	[4.75]***	[1.48]	[2.96]***	[3.66]***	[6.02]***	[3.80]***	[0.64]	[0.68]	[0.21]	[2.26]**	[0.15]	[0.22]	[1.06]	[0.65]	[2.31]**	[2.46]**	[0.98]	[0.57]
Lagged lending conditions	0.52	0.49	0.52	0.40	0.51	0.50	0.51	0.49	0.42	0.40	0.42	0.44	0.54	0.52	0.54	0.34	0.50	0.50	0.50	0.36	0.59	0.58	0.59	0.42
	[10.62]***	[9.97]***	[10.62]***	[6.59]***	[13.08]***	[12.85]***	[13.08]***	[8.82]***	[8.41]***	[8.19]***	[8.41]***	[7.73]***	[10.47]***	[10.10]***	[10.47]***	[5.58]***	[9.74]***	[9.79]***	[9.74]***	[5.63]***	[12.71]***	[12.10]***	[12.71]***	[6.66]***
Time fixed effects	no	no	no	yes	no	no	no	yes	no	no	no	yes	no	no	no	yes	no	no	no	yes	no	no	no	yes
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
# of observations	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276	276
# of countries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 4

Panel C: Interaction between monetary policy and average Loan-To-Value ratio for mortgage loans

	Lending conditions for mortgage loans																	
	Overall lending conditions			Balance sheet factors			Bank competition			Non-bank competition			General economic conditions			Housing market prospects		
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Overnight rates i_{t-1}	8.47			0.80			-22.66			-4.36			10.40			2.29		
	[0.75]			[0.19]			[3.01]***			[1.38]			[0.96]			[0.26]		
Loan-to-value ratio (average) i_{t-1}	21.15	17.12	22.89	1.42	1.08	4.45	-3.58	-4.41	-0.37	1.60	1.10	0.40	6.03	5.33	3.53	16.80	12.54	11.27
	[1.24]	[1.02]	[1.28]	[0.21]	[0.17]	[0.60]	[0.37]	[0.45]	[0.04]	[0.47]	[0.33]	[0.09]	[0.44]	[0.39]	[0.21]	[1.44]	[1.08]	[0.91]
Overnight rates*LTV ratio i_{t-1}	-1.63			2.13			12.86			2.11			-2.00			0.64		
	[0.28]			[1.01]			[3.31]***			[1.28]			[0.36]			[0.15]		
Taylor rule residuals i_{t-1}		19.04	8.47		-3.36	0.80		-17.48	-22.66		-2.93	-4.36		15.99	10.40		10.09	2.29
		[1.59]	[0.75]		[0.72]	[0.19]		[1.81]*	[3.01]***		[0.66]	[1.38]		[1.16]	[0.96]		[1.06]	[0.26]
Taylor-rule residuals*LTV ratio i_{t-1}		-2.40	-1.63		3.63	2.13		15.67	12.86		2.39	2.11		-3.26	-2.00		0.85	0.64
		[0.39]	[0.28]		[1.53]	[1.01]		[3.19]***	[3.31]***		[1.04]	[1.28]		[0.47]	[0.36]		[0.18]	[0.15]
Current Account balance i_{t-1}	-1.39	-1.08	-1.39	-0.14	0.13	-0.14	-0.02	-0.20	-0.02	-0.22	-0.39	-0.22	-0.41	-0.52	-0.41	-0.75	-0.73	-0.75
	[4.00]***	[2.62]***	[4.00]***	[1.13]	[0.73]	[1.13]	[0.07]	[0.71]	[0.07]	[3.92]***	[3.70]***	[3.92]***	[2.04]**	[1.90]*	[2.04]**	[3.45]***	[2.99]***	[3.45]***
10-year rate i_{t-1}	10.19		10.19	-0.25		-0.25	5.57		5.57	1.24		1.24	2.91		2.91	9.71		9.71
	[4.52]***		[4.52]***	[0.18]		[0.18]	[3.51]***		[3.51]***	[2.42]**		[2.42]**	[2.07]**		[2.07]**	[5.33]***		[5.33]***
GDP growth i_{t-1}	-2.96	-1.99	-2.82	-1.95	-2.12	-1.94	-0.45	-0.10	-0.81	0.15	0.45	0.08	-3.23	-3.00	-3.06	-1.93	-1.37	-1.89
	[4.13]***	[1.84]*	[3.89]***	[6.56]***	[5.27]***	[6.32]***	[0.92]	[0.13]	[1.54]	[1.91]*	[2.42]**	[0.85]	[6.23]***	[3.64]***	[5.76]***	[4.04]***	[2.25]**	[3.84]***
Inflation i_{t-1}	1.58	3.68	3.91	0.18	-2.21	0.40	-0.52	-5.13	-6.76	-0.04	-1.10	-1.24	3.72	7.65	6.58	0.55	2.94	1.18
	[1.47]	[0.87]	[1.16]	[0.38]	[1.48]	[0.31]	[0.62]	[1.66]*	[2.99]***	[0.18]	[0.80]	[1.32]	[5.07]***	[1.89]*	[2.13]**	[0.63]	[1.03]	[0.46]
Lagged lending conditions	0.37	0.36	0.37	0.45	0.40	0.45	0.33	0.34	0.33	0.07	0.12	0.07	0.55	0.48	0.55	0.53	0.56	0.53
	[8.07]***	[6.94]***	[8.07]***	[8.26]***	[6.30]***	[8.26]***	[5.97]***	[5.46]***	[5.97]***	[1.12]	[1.74]*	[1.12]	[15.03]***	[8.01]***	[15.03]***	[11.52]***	[10.29]***	[11.52]***
Time fixed effects	no	yes	no	no	yes	no	no	yes	no	no	yes	no	no	yes	no	no	yes	no
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
# of observations	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253	253
# of countries	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11	11

Table 5 Summary Statistics after the Crisis

	Mean	Std. Dev.	Min	Max
Overnight rates	1.15	1.26	0.34	4.25
Taylor rule residuals	-0.65	1.23	-3.36	1.60
Long-term liquidity provision (%GDP)	0.11	0.13	0.00	0.57
Net liquidity position (%GDP)	0.01	0.23	-1.01	0.77
GDP growth	-0.85	3.42	-9.84	5.70
Inflation	1.75	1.77	-2.75	5.61
Total lending standards				
for business loans	25.45	37.00	-50	100
for mortgage loans	21.92	31.54	-75	100
for consumer loans	21.28	28.44	-27.27	100
Lending standards for business loans				
due to balance sheet constraints	14.94	24.96	-25	86.67
due to capital position	17.81	23.90	-25	100
due to liquidity position	8.77	26.96	-40	80
due to market financing	18.25	29.71	-40	100
Lending standards for mortgage loans				
due to balance sheet constraints	15.12	27.29	-60	100
Lending standards for consumer loans				
due to balance sheet constraints	14.71	25.49	-25	100

Table 6

Panel A: Impact on monetary policy and long-term liquidity provision

	Lending conditions																	
	Business loans						Mortgage loans						Consumer loans					
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Overnight rates $t-1$	12.03	13.03					6.65	6.99					5.50	6.64				
	[20.58]***	[26.14]***					[11.27]***	[13.23]***					[8.52]***	[13.58]***				
Long-term liquidity provision $i,t-1$	54.39	56.33	54.39	63.08	58.05	67.05	28.48	47.64	28.48	39.26	19.68	33.65	-29.83	-25.49	-29.83	-16.07	-54.25	-20.20
	[7.72]***	[17.03]***	[7.72]***	[7.20]***	[5.27]***	[6.19]***	[2.17]**	[6.80]***	[2.17]**	[2.58]***	[1.64]	[2.27]**	[4.07]***	[2.82]***	[4.07]***	[1.40]	[5.02]***	[2.54]**
Overnight rates*LT liquidity $i,t-1$		-7.56						-23.14						-23.44				
		[1.58]						[9.42]***						[5.85]***				
Taylor-rule residuals $i,t-1$			12.03	9.15	11.53	9.69			6.65	6.68	7.40	7.13			5.50	5.33	6.73	6.22
			[20.58]***	[5.44]***	[15.64]***	[6.72]***			[11.27]***	[6.99]***	[11.96]***	[7.55]***			[8.52]***	[4.53]***	[12.91]***	[7.87]***
Taylor-rule residuals*LT liquidity $i,t-1$				6.87	7.91						-8.63	-6.86					-13.35	-13.48
				[1.59]	[1.91]*						[1.67]*	[1.07]					[3.23]***	[4.86]***
GDP growth $i,t-1$	-0.01	-0.19	0.70	1.26	0.69	0.87	0.24	0.08	0.63	1.32	0.72	1.41	-0.38	-0.68	-0.05	0.57	-0.01	0.58
	[0.06]	[1.32]	[3.75]***	[4.60]***	[3.46]***	[2.79]***	[1.00]	[0.43]	[2.59]***	[3.14]***	[2.98]***	[3.33]***	[3.75]***	[4.42]***	[0.50]	[2.04]**	[0.06]	[2.87]***
Inflation $i,t-1$	2.03	1.90	8.15	8.49	8.23	7.35	2.23	3.32	5.62	6.23	5.30	6.00	1.13	2.24	3.93	4.36	3.72	3.90
	[3.18]***	[7.31]***	[14.17]***	[14.50]***	[12.44]***	[11.12]***	[3.72]***	[6.43]***	[10.17]***	[10.44]***	[9.65]***	[10.08]***	[2.49]**	[5.15]***	[10.25]***	[11.48]***	[8.46]***	[9.71]***
Lagged lending conditions	0.27	0.25	0.27	0.26	0.27	0.36	0.26	0.28	0.26	0.20	0.26	0.21	0.35	0.32	0.35	0.39	0.33	0.46
	[7.99]***	[9.07]***	[7.99]***	[3.98]***	[7.45]***	[7.41]***	[5.64]***	[9.02]***	[5.64]***	[2.85]***	[5.43]***	[2.96]***	[9.38]***	[8.50]***	[9.38]***	[6.24]***	[7.66]***	[8.54]***
Time fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country fixed effects	no	no	no	yes	no	yes	no	no	no	yes	no	yes	no	no	no	yes	no	yes
# of observations	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
# of countries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 6

Panel B: Impact of monetary policy and long-term liquidity provision

	Lending conditions due to balance sheet factors																							
	For business loans												For mortgage loans				For consumer loans							
	Overall balance sheet constraints				Capital position constraints				Liquidity position constraints				Market financing constraints				Overall balance sheet constraints				Overall balance sheet constraints			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Overnight rates $t-1$	3.07				2.44				0.72				5.21				4.40				4.78			
	[6.68]***				[7.92]***				[1.72]*				[7.26]***				[9.93]***				[7.80]***			
Long-term liquidity provision $i,t-1$	3.85	16.58	55.55	63.31	-14.10	-7.16	20.46	27.59	17.18	9.66	65.39	76.29	10.44	13.78	35.77	51.83	34.93	41.70	28.92	35.95	5.62	48.96	15.04	22.15
	[0.40]	[2.15]**	[8.21]***	[7.35]***	[3.11]***	[1.28]	[3.17]***	[2.64]***	[4.47]***	[1.46]	[13.02]***	[5.57]***	[3.04]***	[1.46]	[7.36]***	[4.54]***	[7.61]***	[3.90]***	[6.44]***	[5.86]***	[1.44]	[4.55]***	[1.95]*	[3.02]***
Overnight rates*LT liquidity $i,t-1$	22.88	18.90			30.73	27.33			13.35	10.91			17.17	20.10			-18.71	-15.83			-16.34	-15.00		
	[2.97]***	[6.09]***			[14.94]***	[10.33]***			[3.68]***	[2.46]**			[7.04]***	[5.21]***			[13.79]***	[2.83]***			[17.15]***	[2.58]***		
Taylor-rule residuals $i,t-1$			1.98	-0.08			2.56	-2.81			-1.82	-3.51			4.89	-0.02			3.18	4.46			3.90	1.47
			[3.67]***	[0.09]			[7.92]***	[1.78]*			[5.56]***	[2.55]**			[8.23]***	[0.02]			[6.50]***	[4.64]***			[12.53]***	[1.67]*
Taylor-rule residuals*LT liquidity $i,t-1$			22.76	23.09			14.06	14.26			29.42	33.44			12.45	20.25			1.46	1.84			1.13	0.68
			[9.67]***	[7.09]***			[7.40]***	[3.37]***			[12.44]***	[5.01]***			[4.60]***	[4.30]***			[1.12]	[0.98]			[0.36]	[0.27]
GDP growth $i,t-1$	-0.25	-0.68	-0.18	-0.44	-0.50	0.07	-0.42	0.04	0.02	-1.19	-0.39	-0.95	0.10	0.52	0.16	0.72	0.18	0.07	0.63	0.67	-0.10	0.85	0.10	1.10
	[2.72]***	[2.94]***	[1.41]	[1.65]*	[4.63]***	[0.24]	[5.38]***	[0.10]	[0.15]	[3.58]***	[3.57]***	[2.54]**	[1.07]	[2.11]**	[1.16]	[2.62]***	[1.46]	[0.15]	[4.95]***	[2.51]**	[0.94]	[3.38]***	[1.23]	[5.39]***
Inflation $i,t-1$	4.26	3.79	7.87	7.36	2.11	3.09	5.35	4.36	5.97	4.97	8.84	8.06	4.23	3.30	8.46	6.81	3.33	2.66	4.32	4.23	2.70	4.52	4.94	4.67
	[10.86]***	[6.10]***	[21.26]***	[11.63]***	[7.04]***	[3.52]***	[22.77]***	[6.05]***	[14.61]***	[8.38]***	[27.48]***	[13.53]***	[9.33]***	[3.69]***	[16.83]***	[8.87]***	[7.07]***	[2.97]***	[10.15]***	[9.96]***	[6.26]***	[4.73]***	[19.81]***	[12.20]***
Lagged lending conditions	0.12	0.28	0.12	0.18	0.12	0.15	0.18	0.27	0.29	0.40	0.25	0.34	0.16	0.31	0.14	0.29	0.30	0.33	0.33	0.41	0.11	0.11	0.05	0.09
	[2.79]***	[4.17]***	[4.20]***	[2.52]**	[2.81]***	[2.13]**	[7.00]***	[3.33]***	[9.06]***	[6.48]***	[8.76]***	[8.73]***	[3.31]***	[4.08]***	[3.04]***	[3.98]***	[6.33]***	[4.81]***	[5.63]***	[5.64]***	[2.21]**	[1.36]	[1.62]	[1.07]
Time fixed effects	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
# of observations	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
# of countries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 7

Panel A: Impact on monetary policy and net liquidity provision

	Business loans						Lending conditions						Consumer loans					
							Mortgage loans											
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Overnight rates*Net liquidity position $t-1$	11.25	11.43					6.20	6.59					5.30	5.95				
	[31.92]***	[14.80]***					[8.80]***	[10.33]***					[9.42]***	[8.78]***				
Net liquidity position $i,t-1$ (% of GDP)	-12.35	13.65	-12.35	-16.25	-19.08	-25.60	-4.03	19.91	-4.03	-6.43	-8.07	-10.08	-0.32	5.89	-0.32	-7.39	0.33	-7.27
	[6.50]***	[2.99]***	[6.50]***	[6.67]***	[7.26]***	[7.42]***	[1.70]*	[3.78]***	[1.70]*	[1.94]*	[2.49]**	[2.52]**	[0.12]	[1.18]	[0.12]	[2.33]**	[0.12]	[1.93]*
Overnight rates*Net liquidity position $i,t-1$		-13.34						-12.72						-3.04				
		[6.84]***						[6.28]***						[1.52]				
Taylor-rule residuals $i,t-1$			11.25	11.71	11.33	12.27			6.20	6.74	6.48	6.17			5.30	5.83	5.46	5.63
			[31.92]***	[11.92]***	[31.12]***	[13.35]***			[8.80]***	[6.66]***	[8.90]***	[4.99]***			[9.42]***	[14.96]***	[9.39]***	[5.18]***
Taylor-rule residuals*Net liquidity position $i,t-1$				-11.31	-12.93						-4.96	-4.64					1.86	0.99
				[7.73]***	[5.65]***						[2.24]**	[1.76]*					[0.97]	[0.43]
GDP growth $i,t-1$	-0.49	0.03	0.18	-0.37	0.64	0.73	0.08	0.52	0.45	0.86	0.70	0.76	-0.15	-0.10	0.16	0.54	0.15	0.53
	[2.82]***	[0.17]	[1.07]	[1.13]	[3.97]***	[1.60]	[0.24]	[1.74]*	[1.34]	[1.96]**	[1.97]**	[2.13]**	[1.76]*	[1.13]	[1.77]*	[2.21]**	[1.63]	[2.46]**
Inflation $i,t-1$	3.02	2.79	8.73	8.07	8.22	9.40	2.84	2.72	5.99	5.68	5.82	6.50	1.17	1.08	3.87	4.49	3.81	4.39
	[7.94]***	[10.28]***	[20.41]***	[13.82]***	[19.93]***	[8.61]***	[5.16]***	[4.62]***	[11.40]***	[10.48]***	[9.77]***	[8.28]***	[2.69]***	[2.53]**	[10.82]***	[5.43]***	[10.56]***	[11.84]***
Lagged lending conditions	0.27	0.29	0.27	0.35	0.28	0.37	0.23	0.25	0.23	0.30	0.22	0.25	0.38	0.36	0.38	0.47	0.37	0.46
	[11.65]***	[8.78]***	[11.65]***	[6.54]***	[12.40]***	[6.35]***	[4.74]***	[5.64]***	[4.74]***	[5.12]***	[4.39]***	[3.92]***	[9.75]***	[8.65]***	[9.75]***	[8.59]***	[9.48]***	[8.13]***
Time fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country fixed effects	no	no	no	yes	no	yes	no	no	no	yes	no	yes	no	no	no	yes	no	yes
# of observations	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
# of countries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 7

Panel B: Impact of monetary policy and net liquidity provision

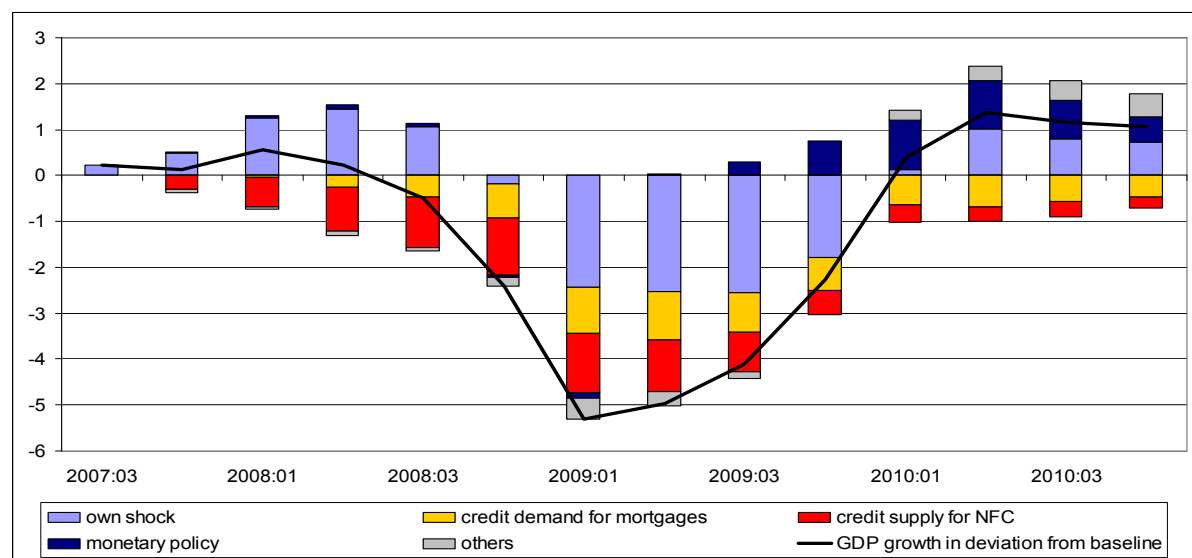
	Lending conditions due to balance sheet factors																							
	Overall balance sheet				For business loans								For mortgage loans				For consumer loans							
	Overall balance sheet				Capital position constraints				Liquidity position constraints				Market financing constraints				Overall balance sheet				Overall balance sheet			
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Overnight rates $t-1$	3.07				2.44				0.72				5.21				4.40				4.78			
	[6.68]***				[7.92]***				[1.72]*				[7.26]***				[9.93]***				[7.80]***			
Net liquidity position $i, t-1$ (% of GDP)	3.85	16.70	55.55	63.31	-14.10	7.10	20.46	27.59	17.18	13.70	65.39	76.29	10.44	24.51	35.77	51.83	34.93	33.44	28.92	35.95	5.62	21.32	15.04	22.15
	[0.40]	[2.18]**	[8.21]***	[7.35]***	[3.11]***	[1.22]	[3.17]***	[2.64]***	[4.47]***	[2.66]***	[13.02]***	[5.57]***	[3.04]***	[1.41]	[7.36]***	[4.54]***	[7.61]***	[5.88]***	[6.44]***	[5.86]***	[1.44]	[3.28]***	[1.95]*	[3.02]***
Eonia*net liq position $i, t-1$	22.88				30.73				13.35				17.17				-18.71				-16.34			
	[2.97]***				[14.94]***				[3.68]***				[7.04]***				[13.79]***				[17.15]***			
Taylor-rule residuals $i, t-1$		3.40	1.98	-0.08		-1.88	2.56	-2.81		1.52	-1.82	-3.51		2.49	4.89	-0.02		4.74	3.18	4.46		1.57	3.90	1.47
		[2.69]***	[3.67]***	[0.09]		[2.01]**	[7.92]***	[1.78]*		[2.18]**	[5.56]***	[2.55]**		[1.91]*	[8.23]***	[0.02]		[5.29]***	[6.50]***	[4.64]***		[1.94]*	[12.53]***	[1.67]*
Taylor res*net liq position $i, t-1$			22.76	23.09			14.06	14.26			29.42	33.44			12.45	20.25				1.46	1.84		1.13	0.68
			[9.67]***	[7.09]***			[7.40]***	[3.37]***			[12.44]***	[5.01]***			[4.60]***	[4.30]***				[1.12]	[0.98]		[0.36]	[0.27]
GDP growth $i, t-1$	-0.25	-0.52	-0.18	-0.44	-0.50	0.11	-0.42	0.04	0.02	-1.12	-0.39	-0.95	0.10	0.52	0.16	0.72	0.18	0.67	0.63	0.67	-0.10	1.03	0.10	1.10
	[2.72]***	[2.21]**	[1.41]	[1.65]*	[4.63]***	[0.51]	[5.38]***	[0.10]	[0.15]	[4.33]***	[3.57]***	[2.54]**	[1.07]	[1.38]	[1.16]	[2.62]***	[1.46]	[2.67]***	[4.95]***	[2.51]**	[0.94]	[7.37]***	[1.23]	[5.39]***
Inflation $i, t-1$	4.26	5.11	7.87	7.36	2.11	3.98	5.35	4.36	5.97	5.89	8.84	8.06	4.23	6.55	8.46	6.81	3.33	4.13	4.32	4.23	2.70	4.70	4.94	4.67
	[10.86]***	[8.24]***	[21.26]***	[11.63]***	[7.04]***	[10.01]***	[22.77]***	[6.05]***	[14.61]***	[13.00]***	[27.48]***	[13.53]***	[9.33]***	[8.34]***	[16.83]***	[8.87]***	[7.07]***	[9.84]***	[10.15]***	[9.96]***	[6.26]***	[12.26]***	[19.81]***	[12.20]***
Lagged lending conditions	0.12	0.31	0.12	0.18	0.12	0.28	0.18	0.27	0.29	0.41	0.25	0.34	0.16	0.28	0.14	0.29	0.30	0.42	0.33	0.41	0.11	0.09	0.05	0.09
	[2.79]***	[4.10]***	[4.20]***	[2.52]**	[2.81]***	[3.97]***	[7.00]***	[3.33]***	[9.06]***	[7.47]***	[8.76]***	[8.73]***	[3.31]***	[3.76]***	[3.04]***	[3.98]***	[6.33]***	[5.70]***	[5.63]***	[5.64]***	[2.21]**	[1.10]	[1.62]	[1.07]
Time fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
Country fixed effects	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
# of observations	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144	144
# of countries	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12

Table 8

Panel A : Access to market financing and long-term liquidity provision

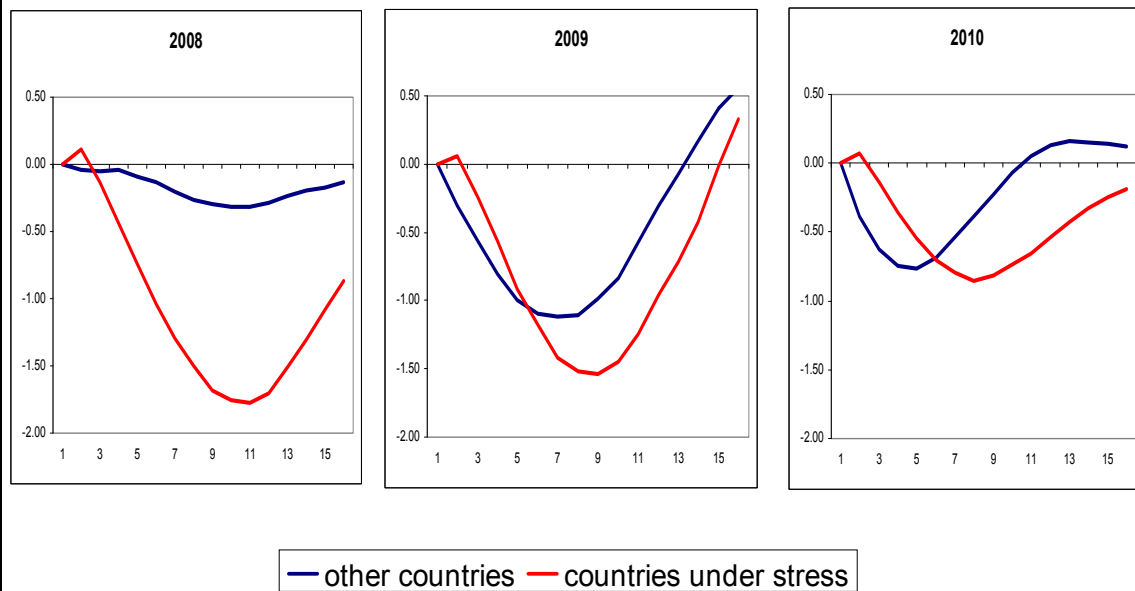
	Very short-term money market (1 week)		Short-term money market (>1week)		Short-term debt securities		Medium to long-term debt securities		Securitisation of corporate loans		Loans for house purchase	
	1	2	3	4	5	6	7	8	9	10	11	12
Long-term liquidity provision $i, t-1$	139.48 [23.34]***	135.16 [8.68]***	110.76 [8.76]***	111.89 [9.78]***	77.92 [5.20]***	74.83 [4.79]***	88.45 [7.67]***	170.03 [5.82]***	161.23 [5.53]***	200.74 [5.93]***	131.41 [8.60]***	98.85 [6.04]***
Overnight rates*LT liquidity provision $i, t-1$												
Taylor-rule residuals $i, t-1$	5.48 [8.96]***	8.38 [7.93]***	14.63 [10.90]***	20.22 [21.79]***	8.90 [5.20]***	16.35 [13.95]***	15.26 [9.50]***	24.42 [16.69]***	15.30 [9.06]***	21.33 [5.41]***	18.90 [10.10]***	19.26 [11.26]***
Taylor-rule residuals*LT liquidity provision $i, t-1$	51.38 [15.68]***	40.87 [8.74]***	44.06 [11.21]***	31.26 [9.97]***	28.67 [4.95]***	20.76 [3.27]***	22.60 [4.26]***	32.77 [3.41]***	66.47 [3.94]***	93.01 [5.20]***	17.62 [2.10]**	14.80 [1.87]*
GDP growth $i, t-1$	-0.13 [0.89]	0.61 [0.85]	0.22 [0.71]	1.43 [3.54]***	1.24 [4.18]***	2.12 [4.90]***	1.46 [10.42]***	5.30 [6.47]***	-2.02 [5.18]***	0.46 [0.39]	-1.47 [5.24]***	1.07 [1.48]
Inflation $i, t-1$	7.81 [13.31]***	8.29 [7.67]***	10.86 [11.98]***	11.08 [16.70]***	5.37 [6.96]***	7.55 [9.72]***	8.33 [17.24]***	13.55 [9.45]***	9.54 [10.20]***	11.61 [10.09]***	10.49 [10.46]***	10.47 [14.69]***
Lagged measure of market access	0.18 [5.18]***	0.22 [4.22]***	0.05 [1.14]	0.06 [1.26]	0.27 [4.95]***	0.30 [5.46]***	0.23 [7.81]***	0.18 [2.27]**	0.21 [3.89]***	0.14 [1.58]	0.20 [4.51]***	0.35 [4.04]***
Time fixed effects	no	yes	no	yes	no	yes	no	yes	no	yes	no	yes
Country fixed effects	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes
# of observations	144	144	144	144	144	144	144	144	108	108	108	108
# of countries	12	12	12	12	12	12	12	12	9	9	9	9

Figure 1: Shock decomposition during the crisis



The decomposition is estimated using the model developed in Ciccarelli, Maddaloni, Peydró (2010)

Figure 2: Response of GDP growth to a shock of monetary policy in countries under stress and in all other countries



Source: Ciccarelli, Maddaloni, Peydró, 2011.

The charts show estimated impulse response function of GDP growth to a 100 bp monetary policy shock on average for 2008, 2009 and 2010 for two groups of euro area countries. The countries under stress include Greece, Ireland, Portugal and Spain. The others are: Austria, Belgium, Finland, France, Germany, Italy, Luxembourg, and Netherlands.